



**Department of the Environment**

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# ***Maryland Phase II MS4 Permit Forum***

***November 18, 2015***

**Water Management Administration**

**Sediment, Stormwater, and Dam Safety Program**





# Presentation Outline

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- How did we get here?
- What are we required to do now?
- What's the future look like?



# Municipal Separate Storm Sewer System (MS4) Permitting History

- The Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) stormwater regulations were published in 1990
- Phase I of these regulations required “large” and “medium” urban jurisdictions to control pollution in stormwater to the maximum extent practicable (MEP)
  - municipalities with populations of greater than 250,000 are defined as “large”
  - municipalities with populations of between 100,000 and 250,000 are defined as “medium”





# Phase II MS4 Permitting History

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- Municipalities with populations of less than 100,000 are defined as “small” MS4s
- In December 1999, the EPA promulgated NPDES Phase II stormwater requirements for small MS4s
- Twenty-one cities and towns in Maryland with populations greater than 1,000 are covered by Maryland’s Phase II municipal stormwater general permit
  - MDE adopted a general permit on April 14, 2003 for small municipalities
  - Another 40 small MS4s are co-permittees with larger Phase I permittees





# Who's Who Phase II Municipal

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## Counties

Cecil County

Washington County

## Municipalities

Aberdeen, Annapolis, Bel Air, Bowie, Brunswick,  
Elkton, Emmitsburg, Frederick, Gaithersburg,  
Hagerstown, Havre de Grace, Middletown, Myersville,  
Rockville, Salisbury, Smithsburg, Takoma Park,  
Thurmont, Walkersville





# Co-Permittees (formerly Phase IIs)

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## Montgomery County

Chevy Chase, Chevy Chase Village, Kensington, Somerset, Poolesville, Village of Friendship

## Prince George's County

Berwyn Heights, Bladensburg, Brentwood, Capitol Heights, Cheverly, College Park, Colmar Manor, Cottage City, District Heights, Fairmount Heights, Forest Heights, Glenarden, Greenbelt,, Hyattsville, Landover Hills, Laurel, Morningside, Mount Rainier, New Carrollton, Riverdale Park, Seat Pleasant, University Park

## Carroll County

Hampstead, Manchester, Mount Airy, New Windsor, Sykesville, Taneytown, Union Bridge, Westminster





# Who's Who State and Federal

## State Properties

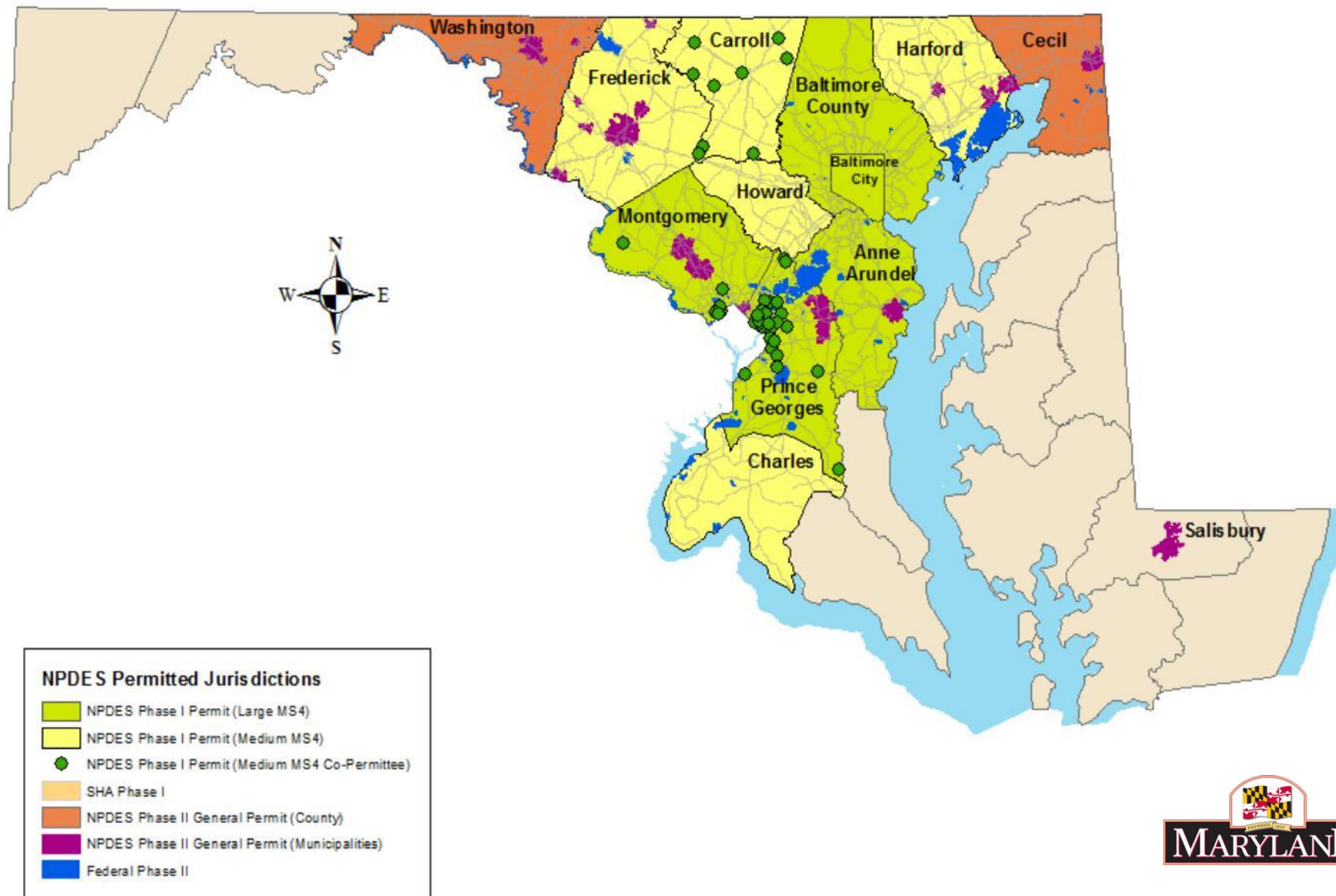
- Maryland Department of General Services, multiple properties
- Maryland Stadium Authority, Camden Yards Sports Complex
- Maryland Department of Transportation Motor Vehicle Administration, Glen Burnie Headquarters, and other multiple properties
- Maryland Aviation Administration, Martin State Airport
- University of Maryland System, College Park, and Towson University,
- Maryland Transit Administration
- Maryland Transportation Authority
- Maryland Port Administration
- Maryland Army and Air National Guard
- Washington Metropolitan Area Transit Authority
- M-NCPPC Montgomery County Department of Parks
- Washington Suburban Sanitary Commission

## Federal Properties

- U.S. Department of the Army, Fort Meade, Aberdeen Proving Ground, and other multiple properties
- U.S. Naval Academy, Naval Surface Warfare Center, Carderock, and other multiple properties
- U.S. Department of the Air Force, Andrews Air Force Base
- Federal Law Enforcement Training Center, Cheltenham
- United States Postal Service
- National Aeronautics & Space Administration, Goddard Space Flight Center
- U.S. Department of Agriculture, Beltsville Agricultural Research Center
- National Institutes of Health, Bethesda
- Architect of the Capitol, Library of Congress at Fort Meade
- U.S. Department of Commerce, National Institute of Standards & Technology, Gaithersburg



# NPDES Permitted Jurisdictions







# Coming to an MS4 Near You!

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## Long-overdue outreach to Phase IIs

- Updating municipal and facility contacts
- Performing annual report reviews
- Conducting EPA/MDE field audits
- November 18,19, 2015, MS4 Phase II Forum
- Provide MS4 community with helpful program guidance
- Prepare for the reissued MS4 Phase II GPs





# MS4 Phase II General Permits

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
GENERAL PERMIT FOR DISCHARGES FROM  
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS**

**GENERAL DISCHARGE PERMIT NO. 03-IM-5500**

**GENERAL NPDES PERMIT NO. MDR055500**

**Effective Date: April 14, 2003**

**Expiration Date: April 14, 2008**

**PART I. COVERAGE UNDER THIS GENERAL PERMIT**

**A. Permit Area.** This National Pollutant Discharge Elimination System (NPDES) permit covers municipal storm sewer systems located in designated municipalities in the State of Maryland.

**B. Eligibility.** The following municipalities listed below are eligible to be covered by this general permit:

1. Municipalities with populations greater than or equal to 1,000 that have been designated by the Environmental Protection Agency (EPA) under 40 Code of Federal Regulations (CFR) 122.32(a)(1); or
2. Municipalities that are designated by the Maryland Department of the Environment (MDE) under 40 CFR 122.32(a)(2). Designation criteria are included in Appendix A of this general permit.

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
GENERAL PERMIT FOR DISCHARGES FROM  
STATE AND FEDERAL  
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS**

**GENERAL DISCHARGE PERMIT NO. 05-SF-5501**

**GENERAL NPDES NO. MDR 055501**

**Effective Date: November 12, 2004**

**Expiration Date: November 12, 2009**

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These general permits are currently expired;  
however, both are administratively continued  
until new ones are issued





# The Minimum Control Measures

- Maryland's Phase II general permits require the following six minimum control measures (MCMs):
  1. Public education and outreach
  2. Public involvement and participation
  3. Illicit discharge detection and elimination
  4. Construction site stormwater runoff control
  5. Post-construction stormwater management
  6. Pollution prevention/good housekeeping



# MCM Focus on Construction Site Runoff Control



20 Acre Grading Unit

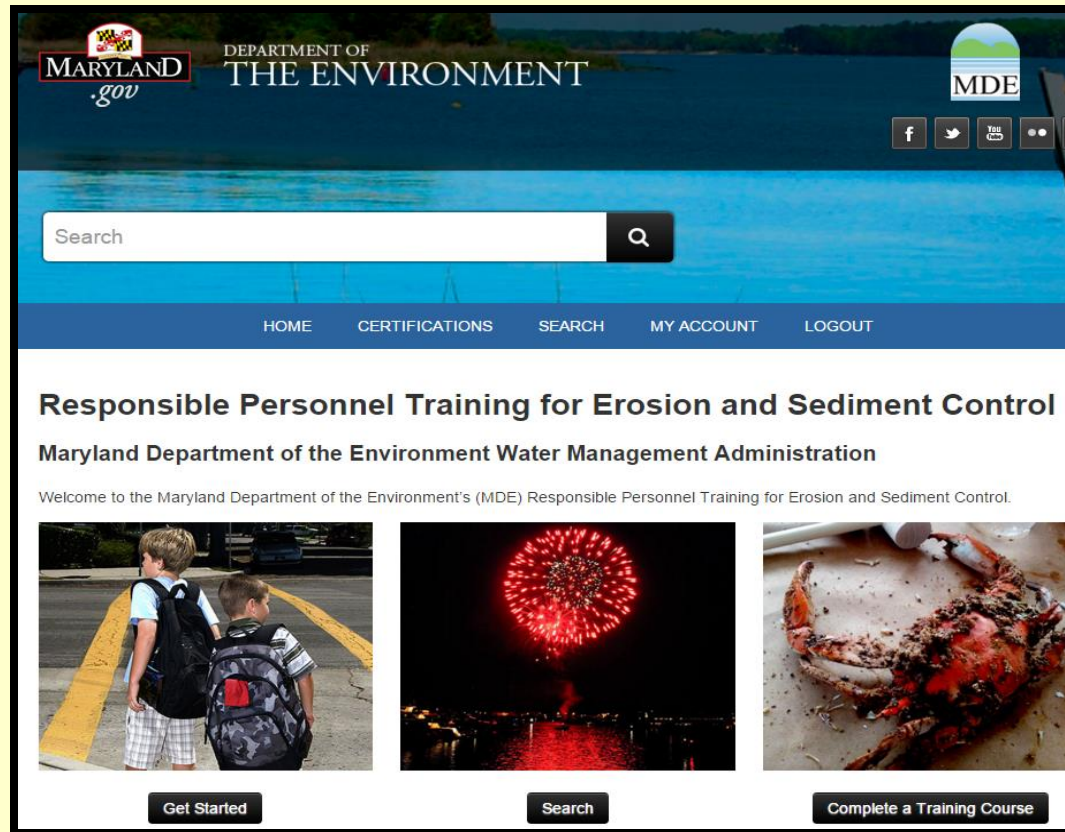


MDE Delegation Review



Increased Stabilization

- 2011 E&S Regulation Update
  - local ordinances updated by January 2012
  - Incorporates handbook of new practices and designs
  - 20 acre grading units, more stringent stabilization (3 to 7 days)
- MDE Delegation of Enforcement Authority
  - 12 counties, 9 municipalities
  - MDE enforces non-delegated jurisdictions



- Responsible Personnel Training and Certification
- Program Showcase: Greg Ryberg, City of Gaithersburg



# MCM Focus on Post-Construction Stormwater Management

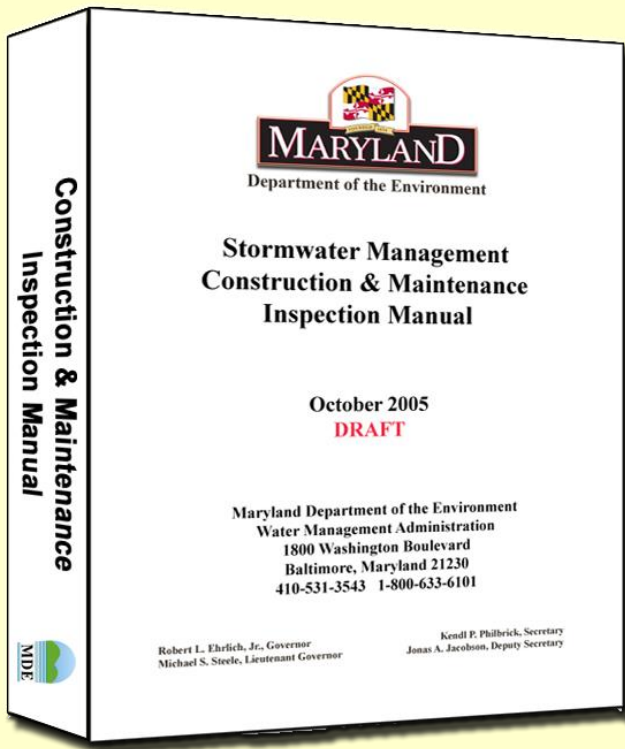
## Maryland's 2007 Stormwater Management Act (2009 Regulations)

Environmental Site Design (ESD): means using small-scale stormwater management practices, non-structural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources



- Local ordinance updates (by May 4, 2010)
- ESD to the Maximum Extent Practicable (MEP)
- Three stages of plan review (Concept, Site, and Final)
- Integrate E&SC and Stormwater Management from the outset

# MCM Focus on Post-Construction



- State Program Overview:  
Deb Cappuccitti, MDE
- Local Program Showcase:  
John Swagger,  
Washington County



- Training
  - 2013 Stormwater Training Seminars
  - Triennial reviews of local programs
  - Construction and maintenance inspection manual



# MCM Focus on Illicit Discharge Detection and Elimination (IDDE)

- Permittees shall develop an IDDE program, including:
  - Field screening of storm drain outfalls
  - Identifying sources of illicit discharges
  - Eliminating illicit discharges
  - Enforcing by penalties where appropriate
- Local Program Showcase
  - United States Naval Academy
  - Tiffany Wright, City of Bowie, Prince George's County
  - Kordell Wilen, Van Funk, Cecil County







# MCM Focus on Pollution Prevention & Good Housekeeping



- State Program Overview: Paul Hlavinka, MDE
- Local Program Showcase: Heather Gewandter, Rockville, Montgomery County

- MS4s shall implement a program to to reduce pollutants from all municipal operations, including:
  - Pollution prevention
  - Good housekeeping
  - Municipal employee training
  - Vehicle fleet maintenance operations

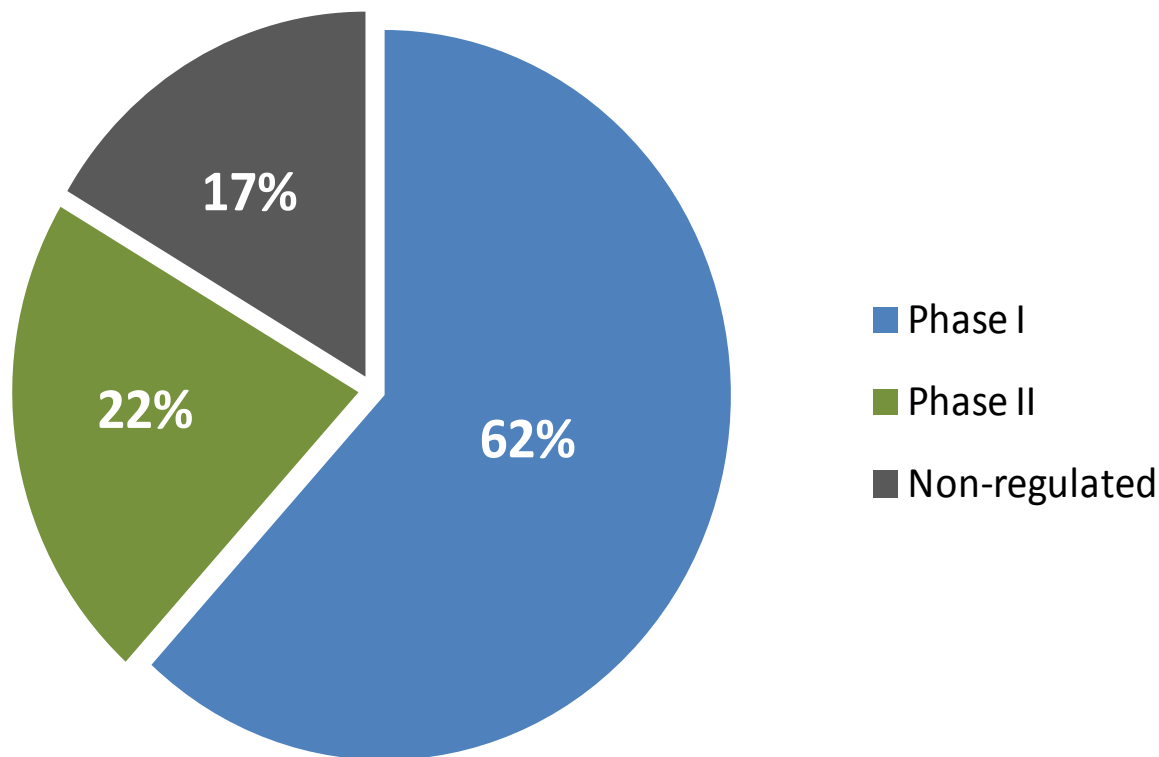


# Chesapeake Bay TMDL

- New permit requirements will support Maryland's Watershed Implementation Plan (WIP) in achieving Chesapeake Bay restoration goals
- The WIP strategy for achieving Chesapeake Bay nutrient and sediment load reductions for small MS4s is to provide impervious area restoration on existing developed lands that have little or no stormwater management



# Phase II Percent of Maryland's Impervious Surfaces



# Getting Started

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## **Impervious Area Restoration**

- Develop an inventory of total impervious area
- Quantify the impervious surfaces that do not have stormwater management
- Evaluate opportunities for BMP implementation on existing unmanaged impervious area
- Develop a BMP database and document routine maintenance and inspection activities for all new and existing BMPs

# Structural BMP Retrofits

- Ponds
- Wetlands
- Infiltration
- Filtering Systems
- Open Channel Systems
- Micro-Scale Practices



Road Swale Retrofit, MD 32, Howard County, Maryland

# Redevelopment

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## **Redevelopment and Impervious Acre Credit**

- Maryland's stormwater management regulations for redevelopment require water quality treatment
- The existing impervious area treated may be credited toward MS4 restoration requirements
- When additional volume above the regulatory requirement is provided, additional MS4 credit will be granted



# Bioretention



Parole Plaza Redevelopment, Anne Arundel County



# Credits Begin Now

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## **Getting Credit toward Future Permit Requirements**

- Initiating the activities described above can allow small MS4s to begin planning and budgeting for the necessary resources and develop a strategy to comply with future permit requirements
- Any restoration BMPs constructed prior to the start of the new permit term may be used for credit toward the new permit. MDE strongly recommends that small MS4s begin planning for these new requirements as soon as possible



# Alternative Practices

- Street sweeping
- Storm drain vacuuming
- Stream restoration
- Tree planting
- Urban forest buffers
- Shoreline erosion control
- Open section road
- Septic upgrades
- Trading with agriculture?



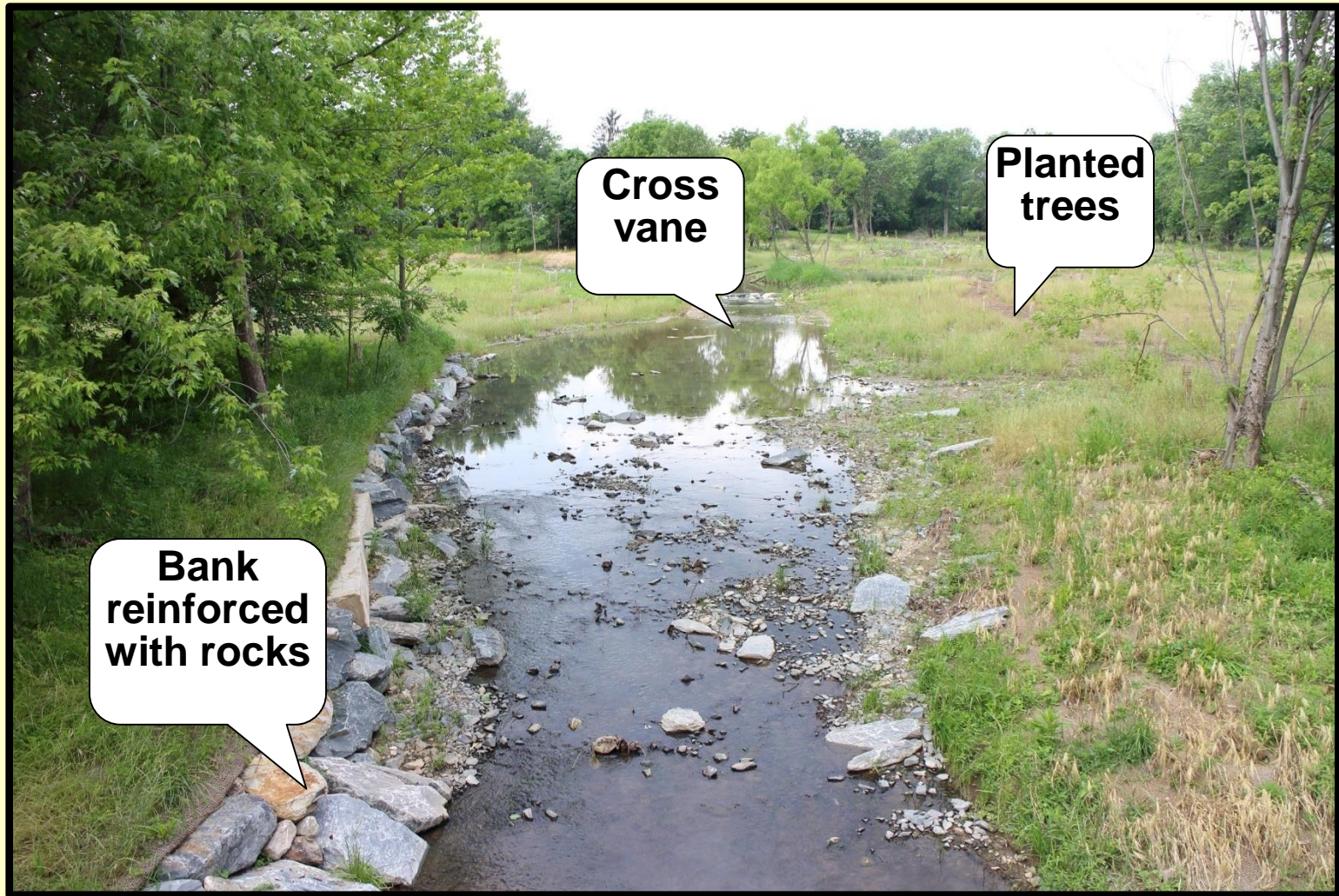
# Partnerships

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- MS4 general permits encourage partnerships to improve water quality and meet requirements
- Permittees may share responsibilities with a near-by county, municipality, State or federal facility performing similar activities under an MS4 permit
- These efforts can be an efficient and cost effective method for meeting permit requirements. MDE will remain flexible when any permittee pursues this option



# Stream Restoration



Scotts Level Branch, Baltimore County



# MDE Phase II Guidance



MARYLAND DEPARTMENT OF THE ENVIRONMENT  
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410-537-3000 • 1-800-633-6101 • [www.mde.maryland.gov](http://www.mde.maryland.gov)

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Governor  
Boyd Rutherford  
Lieutenant Governor

Ben Grumbles  
Secretary

## National Pollutant Discharge Elimination System Small Municipal Separate Storm Sewer System General Permits

### Chesapeake Bay Restoration Getting Started

National Pollutant Discharge Elimination System (NPDES) permit coverage is required for eligible small municipal separate storm sewer systems (MS4s) in certain portions of the State of Maryland. These permits are required under the federal Clean Water Act (CWA) in order to improve water quality in Maryland's streams, rivers, and Chesapeake Bay. The Maryland Department of the Environment (MDE) administers general permits for controlling stormwater discharges from eligible small MS4 municipalities and State and federal agencies. These general permits are currently expired; however, the Code of Federal Regulations allows for NPDES permits to be administratively continued until new ones are issued. This fact sheet is to advise the small MS4 community of anticipated requirements when the new MS4 general permits are reissued.

Maryland's NPDES stormwater permits are playing an increasing role in controlling urban pollutants and restoring local waters and Chesapeake Bay. Therefore, new permit requirements will support Maryland's Watershed Implementation Plan (WIP) for achieving Chesapeake Bay restoration goals. The WIP strategy for achieving Chesapeake Bay nutrient and sediment load reductions for small MS4s covered under MS4 general permits is to provide impervious area restoration on existing developed lands with little or no stormwater management.

### Impervious Area Restoration

Impervious area restoration involves implementing water quality treatment practices on unmanaged urban areas. Acceptable water quality best management practices (BMPs) include the use of environmental site design, structural BMPs, or retrofitting practices that were not designed for water quality treatment (e.g., converting a dry pond to a wetland). The design criteria for stormwater BMPs are outlined in the *2000 Maryland Stormwater Management Design Manual*. In addition, MDE guidance, *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (Guidance) provides information to determine restoration credit for traditional and alternative BMPs. Alternative BMPs described in the Guidance include street sweeping, buffer planting, reforestation, stream restoration, shoreline stabilization, and impervious area removal.

### Getting Started

MDE encourages all small MS4 jurisdictions to prepare for these new requirements by evaluating the level of water quality treatment BMPs provided on existing impervious areas within each jurisdiction. Planning efforts may begin by collecting site data, including:



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[www.mde.maryland.gov](http://www.mde.maryland.gov)

TTY Users 1-800-735-2258  
Via Maryland Relay Service



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## MDE RESOURCES For Phase II MS4 Jurisdictions

Maryland's NPDES Municipal Separate Storm Sewer System (MS4) Permits for Phase I and Phase II jurisdictions

[http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/Pages/Programs/WaterPrograms/sedimentandstormwater/storm\\_gen\\_permit.aspx](http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/Pages/Programs/WaterPrograms/sedimentandstormwater/storm_gen_permit.aspx)

Sediment, Stormwater, and Dam Safety Home Page

<http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/SedimentandStormwaterHome/Pages/Programs/WaterPrograms/sedimentandstormwater/home/index.aspx>

- Stormwater Management Act  
<http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/Pages/programs/waterprograms/sedimentandstormwater/swm2007.aspx>
- Stormwater Management Regulations of the Code of Maryland (COMAR)  
The regulations governing Maryland's stormwater management program, Code of Maryland Regulations (COMAR) 26.17.02, are available from the Office of the Secretary of State, Division of State Documents (DSD) at <http://www.dsd.state.md.us/>
- 2000 Maryland Stormwater Design Manual  
[http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater\\_design/index.aspx](http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx)
- Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (additional guidance on technical procedures and calculations relevant to implementing environmental site design are available on the Sediment, Stormwater, and Dam Safety Home Page)  
<http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/Documents/NPDES%20MS4%20Guidance%20August%2018%202014.pdf>
- Guidelines for Embankment Retrofit Design  
<http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/SedimentandStormwaterHome/Documents/Embankment%20Retrofit%20Policy%202015%20Final.pdf>

Phase II "Fact Sheet" (waiting on link to be posted Friday 11/13)

BMP Database Structure (waiting on link to be posted Friday 11/13)

Illicit Discharge Detection and Elimination (MCM 3) EPA Manual



Recycled Paper

[www.mde.maryland.gov](http://www.mde.maryland.gov)

TTY Users 1-800-735-2258  
Via Maryland Relay Service

ND



# MDE Contacts

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## **Municipalities:**

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Senior Regulatory Engineer  
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Natural Resources Planner  
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- Christina Lyerly  
Natural Resources Planner  
410-537-3543 or [Christina.Lyerly@Maryland.Gov](mailto:Christina.Lyerly@Maryland.Gov)





A wide, green grassy field with a city skyline in the background. The field is mostly empty, with some low concrete walls and a few trees scattered around. In the distance, several buildings are visible, including a tall, modern skyscraper. A red stop sign is visible on the left side of the field.

# Questions

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Sediment and Stormwater Program Review  
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